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Abstract

HEALTH PROBLEMS RAISED BY THE ELIMINATION OF RADIOACTIVE WASTES AND NUCLEAR ACCIDENTS.

Commissariat à l'Energie Atomique

The rapid development of nuclear energy demands an urgent solution to the health problems arising from the discharge into the environment of radioactive residues produced by nuclear installations.

To be able to evaluate the risks run by the population and to fix tolerance limits for waste discharge, it is necessary to possess an exact knowledge of the course taken by the radioelements discharged, from their source until they reach man. The incorporation of radioelements in food cycles is the first risk to take into consideration. The factors involved in all stages of this transmission must be foreseen, whether they concern physical or biological media, because of their continuity and their interdependence.

Finally, socio-economic and dietetic data must be collected in order that the riskes and tolerance levels estimated are based on concrete and experimental rather than theoretical knowledge.

The risk of nuclear accidents in the atomic industry, although very improbable, must be taken into consideration because of the seriousness of their consequences.

The health problems arise in the field of professional hygiene on the one hand and in that of public hygiene on the other.

In the first field the risk is two-fold and involves irradiation and contamination. The public sphere is reduced essentially

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to the risk of contamination by radioactive substances accidentally released in the surrounding medium.

The health studies to be conducted in this field therefore include research not only on irradiation or contamination therapeutics but also on the transfer of radioelements from the accident site to man, mainly through food cycles, in their physical and in their biological components. Studies of this kind form the basis of decisions in the health field which would have to be taken in the case of an accident.